PATENT COOPERATION TREATY

SO KK

From the INTERNATIONAL SEARCHING AUTHORITY

To: ROBERT J. BALLARINI UNITED PLAZA, SUITE 1600 RECEIVED 30 S. 17TH STREET AM/PN	PCT NOTIFICATION OF TRANSMITTAL OF
DEC 0 1 2004	THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION
VOLPE & KOENIG, P.C	(PCT Rule 44.1) Date of Mailing
	(day/month/year) 29 NOV 2004
Applicant's or agent's file reference I-2-0519.1WO	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US04/13013	International filing date (day/month/v-
Applicant INTERDIGITAL TECHNOLOGY CORPORATION	April 2004 (04.2004)
1. Due applicant is hereby notified that an national sear	rch report has been established and is transmitted herewith.
Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the cl	•
When? The time limit for filing such amendments is international search report.	s normally two months from the date of transmittal of the
Where? Directly to the International Bureau of WIPO 1211 Geneva 20, Switzerland, Facsimile No	
For more detailed instructions, see the notes on the a	accompanying sheet.
2. The applicant is hereby notified that no international sear Article 17(2)(a) to that effect is transmitted herewith.	ch report will be established and that the declaration under
	tional fee(s) under Rule 40.2, the applicant is notified that:
applicant's request to forward the texts of both the	een transmitted to the International Bureau together with the protest and the decision thereon to the designated Offices. oplicant will be notified as soon as a decision is made.
4. Reminders	
applicant wishes to avoid or postpone publication, a notice of	nal application will be published by the International Bureau. If the withdrawal of the international application, or of the priority claim, s.1 and 90 bis.3, respectively, before the completion of the technical
examination must be filed if the applicant wishes to postpone	of some designated Offices, a demand for international preliminary the entry into the national phase until 30 months from the priority st, within 20 months from the priority date, perform the prescribed fices.
In respect of other designated Offices, the time limit of 30 months.	months (or later) will apply even if no demand is filed within 19
See the Annex to Form PCT/IB/301 and, for details about the Guide, Volume II, National Chapters and the WIPO Internet site	e applicable time limits, Office by Office, see the PCT Applicant's e.
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/ US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450	Authorized officer KRISTA ZELE Telephone No. (708) 305-4701
19/04-5705 PTZ DUL 19/05- Amend bader ART. 19 DUL 18/05- Demand + Roo. 70 writ own + 5	

PALENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: ROBERT J. BALLARINI UNITED PLAZA, SUITE 1600 RECEIVED	PCT		
30 S. 17TH STREET PHILADELPHIA, PA 19103 DEC 0 1 2004	NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION		
VOLPE & KOENIG, P.	(PCT Rule 44.1)		
VOLI E W NOLI NO.	Date of Mailing (day/month/year) 29 NOV 2004		
Applicant's or agent's file reference I-2-0519.1WO	FOR FURTHER ACTION See paragraphs 1 and 4 below		
International application No. PCT/US04/13013	International filing date (day/month/year) 28 April 2004 (28.04.2004)		
Applicant INTERDIGITAL TECHNOLOGY CORPORATION			
1. The applicant is hereby notified that the international sear	ch report has been established and is transmitted herewith.		
Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the cla	aims of the international application (see Rule 46):		
When? The time limit for filing such amendments is international search report.	normally two months from the date of transmittal of the		
Where? Directly to the International Bureau of WIPC 1211 Geneva 20, Switzerland, Facsimile No.			
For more detailed instructions, see the notes on the a			
2. The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.			
3. With regard to the protest against payment of (an) addit	ional fee(s) under Rule 40.2, the applicant is notified that:		
the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.			
l — ·· ·	plicant will be notified as soon as a decision is made.		
4. Reminders			
applicant wishes to avoid or postpone publication, a notice of v	al application will be published by the International Bureau. If the withdrawal of the international application, or of the priority claim, and 90 bis.3, respectively, before the completion of the technical		
examination must be filed if the applicant wishes to postpone t	of some designated Offices, a demand for international preliminary the entry into the national phase until 30 months from the priority it, within 20 months from the priority date, perform the prescribed ices.		
In respect of other designated Offices, the time limit of 30 m months.	nonths (or later) will apply even if no demand is filed within 19		
See the Annex to Form PCT/IB/301 and, for details about the Guide, Volume II, National Chapters and the WIPO Internet site	applicable time limits, Office by Office, see the PCT Applicant's		
Name and mailing address of the ISA/US	Authorized officer		
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450	KRISTA ZELE Telephone No. (708) 305-4701		
Facsimile No. (703) 305-3230	V		

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applican I-2-0519.	t's or agent's file reference .1WO	FOR FURTHER ACTION		cation of Transmittal of International Search form PCT/ISA/220) as well as, where applicable, low.	
Internation PCT/USG	onal application No. 04/13013	International filing date (day/mon 28 April 2004 (28.04.2004)	th/year)	(Earliest) Priority Date (day/month/year) 13 December 2003 (13.12.2003)	
	Applicant INTERDIGITAL TECHNOLOGY CORPORATION				
applicant	t according to Article 18. A cop	n prepared by this International Se by is being transmitted to the Inter			
This inte	This international search report consists of a total of sheets. It is also accompanied by a copy of each prior art document cited in this report.				
1. Basi a.					
b.	Authority (Rule 23.1(b)).	and/or amino acid sequence discl		international application furnished to this international application, the international	
	contained in the internationa	al application in written form.			
	filed together with the intern	national application in computer rea	dable form	1.	
	furnished subsequently to th	is Authority in written form.			
	furnished subsequently to th	is Authority in computer readable f	orm.		
	the statement that the subsectinternational application as f		listing does	s not go beyond the disclosure in the	
	the statement that the inform been furnished.	nation recorded in computer readab	le form is	identical to the written sequence listing has	
2.	Certain claims were found	unsearchable (See Box I).			
3.					
4. Wi	th regard to the title ,				
	the text is approved as subm	• • • • • • • • • • • • • • • • • • • •			
	the text has been established	l by this Authority to read as follow	/s:		
5. Wi	ith regard to the abstract,				
	the text is approved as subm	nitted by the applicant.			
		•	_	y as it appears in Box III. The applicant ch report, submit comments to this Authority.	
6. Th	e figure of the drawings to be pul	blished with the abstract is Figure 1	No. 2 <u>B</u>		
	as suggested by the applicar	nt.		None of the figures	
	because the applicant failed	to suggest a figure.			
	because this figure better ch	naracterizes the invention.			

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/13013

	ASSIFICATION OF SUBJECT MATTER				
IPC(7) US CL	: H04Q 7/20 : 455/552.1, 426.1, 436				
	to International Patent Classification (IPC) or to both na	tional classification and IPC			
B. FI	ELDS SEARCHED				
	documentation searched (classification system followed b: 455/552.1, 426.1, 436, 432.1, 435.12, 436-439, 442-		332, 334		
Document	Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
·					
Electronic EAST	data base consulted during the international search (name	e of data base and, where practicable, sear	ch terms used)		
	DCUMENTS CONSIDERED TO BE RELEVANT				
Category		<u> </u>	Relevant to claim No.		
Y	US 6,526,034 B1 (GORSUCH) 25 February 2003, s	ee entire document.	1-20		
Y	US 6,577,868 B1 (VIALEN et al) 10 June 2003, see	entire document.	1-20		
		1994			
Fur	her documents are listed in the continuation of Box C.	See patent family annex.			
•	Special categories of cited documents:	"T" later document published after the into date and not in conflict with the applic			
	ment defining the general state of the art which is not considered to be ricular relevance	the principle or theory underlying the			
	er application or patent published on or after the international filing	"X" document of particular relevance; the considered novel or cannot be considered when the document is taken along	red to involve an inventive		
	ment which may throw doubts on priority claim(s) or which is cited to lish the publication date of another citation or other special reason (as fied)	"Y" document of particular relevance; the considered to involve an inventive ste combined with one or more other such being obvious to a person skilled in the	p when the document is h documents, such combination		
"O" docu	ment referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in the document member of the same patent			
	ment published prior to the international filing date but later than the	document member of the same patent			
	e actual completion of the international search	Date of mailing of the international gen	DV 2004		
12 November 2004 (12.11.2004)					
Name and	I mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US	Authorized officer	/		
	Commissioner of Patents	KRISTA ZELE NAMA	INTRAD		
	P.O. Box 1450 Alexandria, Virginia 22313-1450	Telephone No. (703) 305-4701	(CIL W)		
Facsimile	No. (703) 305-3230				

P. ENT COOPERATION TREATY

From the INTERNATIONAL S	EARCHING AUTI	HORITY		
To: ROBERT J. BALLA UNITED PLAZA, S	RINI UITE 1600	RECEIVED AM	/PV:	PCT
30 S. 17TH STREET PHILADELPHIA, I	PA 19103	DEC 01 2004	WR INTERNATIO	ITTEN OPINION OF THE ONAL SEARCHING AUTHORITY
	VOI	DEC 0 1 2004 PE & KOENIG	P.C	(PCT Rule 43bis.1)
			Date of mailing (day/month/year)	29 NOV 2004
Applicant' s or agent	's file reference		FOR FURTHER	
I-2-0519.1WO				
International applicat	ion No.	International filing date	(day/month/year)	Priority date (day/month/year)
PCT/US04/13013	The if a discount of the disco	28 April 2004 (28.04.20		13 December 2003 (13.12.2003)
International Patent C	Classification (IPC)	or both national classifica	ition and IPC	
IPC(7): H04Q 7/20 a Applicant	and US Cl.: 455/55	2.1, 426.1, 436		
		DOD A MICAN		
INTERDIGITAL TE	CHNOLOGY COL	RPORATION		
1. This opinion con	tains indications re	lating to the following iter	ns:	
Box No.	I Basis of the	e opinion		
Box No.	II Priority			
Box No.	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability			ntive step and industrial applicability
Box No.	IV Lack of un	ity of invention		
Box No.	Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement			
Box No.	VI Certain do	cuments cited		
Box No.	VII Certain des	fects in the international ap	oplication	
Box No.	VIII Certain obs	servations on the internation	onal application	
2. FURTHER A	CTION			
International Pro Authority other	eliminary Examining than this one to be	ng Authority ("IPEA") e	xcept that this does IPEA has notified the	be considered to be a written opinion of the not apply where the applicant chooses an e International Bureau under Rule 66.1bis(b) dered.
IPEA a written mailing of Form	reply together, wh	here appropriate, with amefore the expiration of 22	nendments, before th	PEA, the applicant is invited to submit to the an expiration of 3 months from the date of prity date, whichever expires later.
3. For further detail)
			I Anabasia i sec	
Commissione P.O. Box 14	CT, Attn: ISA/US er for Patents	JS	Authorized office KRISTA ZELE Telephone No.	Marin L. Ward
Faccimile No. (702)	205 2220		1	•

Facsimile No. (703) 305-3230 Form PCT/ISA/237 (cover sheet) (January 2004)

International application No.

PCT/US04/13013

	INTERNATIONAL SEARCHING ACTIONITI	PC1/US04/13013			
Box N	lo. I Basis of this opinion				
	With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.				
	This opinion has been established on the basis of a translation from the which is the language of a translation furnished for the purposes of inter-				
	regard to any nucleotide and/or amino acid sequence disclosed in the discl	the international application and necessary to the			
a.	type of material				
	a sequence listing				
	table(s) related to the sequence listing				
b.	format of material				
	in written format				
	in computer readable form				
c.	time of filing/furnishing				
	contained in international application as filed.				
	filed together with the international application in computer reads	able form.			
	furnished subsequently to this Authority for the purposes of search	h.			
3.	In addition, in the case that more than one version or copy of a sequifiled or furnished, the required statements that the information in the su the application as filed or does not go beyond the application as filed, as	obsequent or additional copies is identical to that in			
4. Addi	tional comments:				
i					

International application No. PCT/US04/13013

Box No.	V Reasoned statement under Rule 43 applicability; citations and explanati	bis.1(a)(i ons supp	with regard to novelty, inventive step or industrial orting such statement	al		
1. Staten	1. Statement					
	Novelty (N)	Claims	1-20	_YES		
	•		NONE	_NO		
	Inventive step (IS)	Claims	NONE	_YES		
	mionavo stop (10)	Claims		_NO		
	Industrial applicability (IA)	Claime	1-20	_YES		
	industrial applicationity (IA)		NONE	_NO		
	ns and explanations: Continuation Sheet					
T lease see	Continuation Sheet					

Form PCT/ISA/237 (Box No. V) (January 2004)

International application No. PCT/US04/13013

Supplemental Box In case the space in any of the preceding boxes is not sufficient.
V. 2. Citations and Explanations: Claims 1-20 lack inventive step under PCT Article 33(3) as being obvious over Gorsuch and further in view of Vialen et al and Raychaudhuri et al.
As per claims 1, 10 and 16, Gorsuch teaches a wireless transmit/receive unit (WTRU) [and/or handover method or ASIC] for communications in at least two types of wireless networks (title, abstract and figure 6 shows transceivers for CDMA and 802.11, #140 and #240) comprising:
A protocol engine having at least two wireless communications interfaces, each interface configured for linking with a different type of network (figure 6 shows protocol converters for CDMA and WLAK, #130 and #230);
Each interface configured to pass control signals and user communications data to a common application processing component (figure 6 shows common application processing component being the interface #120 and communications device #110);
An application broker configured to monitor control signaling between the lower layer protocol engine and the upper layer application processing component (figure 6 #120 and protocol converters #130/#230 are interpreted as providing "a pplication brokering" as they interface between the user's application and the physical layer transmission medium. The examiner also notes that the transceivers sit at layers 1 and 2 of the OSI model and the protocol converters/interface sit at layers 3 to 7 and therefore provide "brokering");
A communications broker having a data buffer and defining a switchable data path for user data between the upper layer application processing component and a selected one of the wireless interfaces (C&. L46-56 teaches generic buffering in order to hold data/packets in order to "pr operly receive" subframes); and
But is silent on the application broker associated with the communications broker to control data buffering and data path switching by the communication broker such that data flowing to a first wireless interface of the protocol engine during a communication session is buffered while a wireless link is established with a different second wireless interface of the protocol engine for the communication session and the communication broker data path is switched to the second wireless interface and the buffered data is released therethrough after a wireless link is established for the communication session via the second wireless interface.

Vialen teaches that user data transmitting through said point-to-multipoint connection could be buffered, such that data loss during handover can be prevented (C2, L44-47). Hence, one skilled would use buffering at the BTS (or mobile) during a handover that is controlled by software (e.g. an application broker) while a link is established with a different second wireless system. Further to this point is Raychaudhuri who teaches a Handoff method wherein both the switch and the mobile buffer cells and the mobile controls when the handoff will occur (title). He states that "On e of the problems with the current design of mobile ATM networks is that data cells being transmitted to and from a mobile terminal can sometimes become lost, duplicated or placed out of order when the mobile terminals is handed off from one base station to another" (C2, L24-28) and that buffering occurs in the mobile (see claim 8, step g).

International application No. PCT/US04/13013

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

With further regard to claim 10, Gorsuch teaches handover from CDMA to a high-speed 802.11 system.

With further regard to claim 16, Gorsuch teaches a circuit for dual-mode connectivity (figure 6, #101).

As per claims 2 and 11-12, Gorsuch/Vialen teaches claim 1/10/10 wherein one of the wireless interfaces is for UMTS and the other is configured for 802.11 WLAN (figure 6 shows CDMA and WLAN).

As per claims 3, 8, 13-14, 17 and 20, Gorsuch/Vialen teaches claim 2/1/10/10/16 wherein the communication broker data path is configured to transport packet switched data (figure 6 shows a communications device #110 that can connect to either CDMA or WLAN systems which can support packet transfer). The examiner notes that "pre determined criteria" is interpreted as handing-off if/when a high-speed 802.11 link is available (see Gorsuch abstract).

As per claim 4, Gorsuch/Vialen teaches claim 2 wherein a data path is defined for circuit-switched data between the upper layer application processing component and the UMTS wireless interface (figure 6 shows communications device can connect to a CDMA system that supports circuit-switched data transfer).

As per claims 5 and 9, Gorsuch/Vialen teaches claim 2/1 wherein the application broker includes a link monitor and is configured to trigger the initiation of a wireless link through a different wireless interface based upon monitored link data meeting predetermined criteria (figure 6 shows WLAN detection circuit which detects a WLAN BTS and would be selected if/when high-rate data transfer is desired, C10, L44-50).

As per claims 6, 15 and 18, Gorsuch/Vialen teaches claim 5 wherein the application broker includes an application session manager configured to control the signaling during the establishment of a wireless link through a different wireless interface and an interworking unit configured to maintain and convert context information for transmission during the establishment of a wireless link through a different wireless interface (figure 6 shows an interface #120 and protocol converters #130/#230 that provide OSI layer 3 to 7 support which inherently comprises session management (at the session layer) and any/all data conversions required to interface to the transceivers which provide RF connectivity to CDMA or 802.11).

As per claims 7 and 19, Gorsuch/Vialen teaches claims 6/18 but are silent on wherein the application broker includes a SIM reader configured to read a SIM containing the user's identity.

The examiner takes Official Notice that SIM cards (and readers) are well known in the art of cellular engineering and are typically used to store user data such as identity, profile, etc.).

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When? Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How? Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- 1. [Where originally there were 48 claims and after amendment of some claims there are 51]: "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- 2. [Where originally there were 15 claims and after amendment of all claims there are 11]: "Claims 1 to 15 replaced by amended claims 1 to 11."
- [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
 "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- 4. [Where various kinds of amendments are made]: "Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the PCT Applicant's Guide, Volume II.